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10/817,467	04/02/2004	Christopher F. Lyons	H0368	3192

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EXAMINER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/817,467
Filing Date: April 02, 2004
Appellant(s): LYONS, CHRISTOPHER F.

Gregory Turocy
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 25, 2007 appealing from the Office action mailed July 7, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is deficient. 37 CFR 41.37(c)(1)(v) requires the summary of claimed subject matter to include: (1) a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number, and to the drawing, if any, by reference characters and (2) for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function and step plus function as

permitted by 35 U.S.C. 112, sixth paragraph, must be identified and the structure, material, or acts described in the specification as corresponding to each claimed function must be set forth with reference to the specification by page and line number, and to the drawing, if any, by reference characters. The brief is deficient because the substrate should have a reference number of 101 and not 100.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,955,939	Lyons et al.	10-2005

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Lyons et al. (U.S. Patent No. 6,955,939).

In regards to claim 1, Lyons et al. ("Lyons") discloses the following:

a) a substrate (200) (For Example: See Figure 2);

b) a polymer dielectric over the substrate (For Example: See Column 4 Lines 5-21);

c) at least one active device comprising an organic semiconductor material (212) and a passive layer (210) (For Example: See Column 11 Lines 60-62); and

d) wherein coefficients of thermal expansion of the polymer dielectric and organic material are substantially matched (For Example: See Column 4 Lines 5-21, Column 12 Lines 64-67 and Column 13 Lines 49-57)(Note: Although Lyons does not specifically disclose the limitations listed above, the same material is utilized in Lyons as in Applicant's invention therefore it would inherently have the same characteristics.).

In regards to claim 2, Lyons discloses the following:

a) the polymer dielectric comprises at least one selected from the group consisting of polyimides, fluorinated polyimides, polysilsequioxanes such as hydrogen polysilsequioxanes, methyl polysilsequioxanes, butyl polysilsequioxanes, and phenyl polysilsequioxanes, benzocyclobutenes (BCB), fluorinated benzocyclobutene, polyphenylene, polysilazanes, polyphenylquinoxaline, copolymers of 2,2-bistrifluoromethyl-4,5-difluoro-1,3-dioxole, perfluoroalkoxy resin, fluorinated ethylene propylene, fluoromethacrylate, poly(arylene ether), fluorinated poly(arylene ether), fluorinated parylenes, poly(p-xylxylenes), fluorinated poly(p-xylxylenes), parylene F, parylene N, parylene C, parylene D, amorphous polytetrafluoroethylene, polyquinoline, polyphenylquinoxalines, and polymeric photoresist materials (For Example: See Column 4 Lines 5-21).

In regards to claim 3, Lyons discloses the following:

a) the polymer dielectric comprises a self patternable material (For Example: See Column 4 Lines 5 and 6).

In regards to claim 4, Lyons discloses the following:

a) the polymer dielectric has a glass transition temperature or a melting point of about 125° C. or higher and about 425° C. or less (Note: Although Lyons does not specifically disclose the limitations listed above, the same material is utilized in Lyons as in Applicant's invention therefore it would inherently have the same characteristics.).

In regards to claim 5, Lyons discloses the following:

a) the polymer dielectric has a dielectric constant below about 3 (For Example: See Column 4 Lines 5-21)(Note: Although Lyons does not specifically disclose the limitations listed above, the same material is utilized in Lyons as in Applicant's invention therefore it would inherently have the same characteristics.).

In regards to claim 6, Lyons discloses the following:

a) a conductive polymer (For Example: See Column 11 Lines 65 and 66).

In regards to claim 7, Lyons discloses the following:

a) the organic semiconductor material comprises at least one selected from the group consisting of polyacetylene; polydiphenylacetylene; poly(t-butyl)diphenylacetylene; poly(trifluoromethyl)diphenylacetylene; polybis(trifluoromethyl)acetylene; polybis(tbutyldiphenyl)acetylene; poly(trimethylsilyl) diphenylacetylene; poly(carbazole)diphenylacetylene; polydiacetylene; polyphenylacetylene; polypyridineacetylene; polymethoxyphenylacetylene; polymethylphenylacetylene; poly(t-butyl)phenylacetylene; polynitro-phenylacetylene; poly(trifluoromethyl) phenylacetylene; poly(trimethylsilyl)pheylacetylene; polydipyrrylmethane; polyindoqiunone; polydihydroxyindole; polytrihydroxyindole; furanepolydihydroxyindole; polyindoqiunone-2-carboxyl; polyindoqiunone; polybenzobisthiazole; poly(p-phenylene sulfide); polyaniline; polythiophene; polypyrrole; polysilane; polystyrene; polyfuran; polyindole; polyazulene; polyphenylene; polypyridine; polybipyridine; polyphthalocyanine; polysexithiofene; poly(siliconoxohemiporphyrazine); poly(germaniumoxohemiporphyrazine); poly(ethylenedioxythiophene); polymetallocene complexes; and polypyridine metal complexes (For Example: See Column 12 Lines 64-67 and Column 13 Lines 49-57).

In regards to claim 8, Lyons discloses the following:

a) the passive layer comprises at least one selected from the group consisting of copper sulfide, copper rich copper sulfide, copper oxide, copper selenide, copper telluride, manganese oxide, titanium dioxide, indium oxide, silver sulfide, gold sulfide, iron oxide, cobalt arsenide, and nickel arsenide (For Example: See Column 11 Lines 58-65).

In regards to claim 9, Lyons discloses the following:

a) one active device comprises a first and a second electrode (202 and 214), a passive layer adjacent the first electrode, and the organic semiconductor material adjacent the second electrode (For Example: See Figure 6).

(10) Response to Argument

APPELLANT'S ARGUMENTS:

1) The Appellant argues that "Lyons does not disclose each and every feature set forth in claim 1...Lyons does not disclose a semiconductor device containing a polymer dielectric and an organic semiconductor material, wherein coefficients of thermal expansion of the polymer dielectric and an organic semiconductor material are substantially matched."

2) The Appellant argues that with "respect to claim 4...Lyons does not disclose a semiconductor device containing a polymer dielectric and an organic semiconductor material, wherein coefficients of thermal expansion of the polymer dielectric and an organic semiconductor material are substantially matched and the polymer dielectric has a glass transition temperature or a melting point of about 125° C. or higher and about 425° C. or less."

3) The Appellant argues that with "respect to claim 5...Lyons does not disclose a semiconductor device containing a polymer dielectric and an organic semiconductor material, wherein coefficients of thermal expansion of the polymer dielectric and an organic semiconductor material are substantially matched and the polymer dielectric may have a dielectric constant below about 3."

EXAMINER'S RESPONSE:

1) MPEP § 2112.02 states that where the claimed and prior art products are identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness, has been established...when the PTO shows a sound basis for believing that the products of the applicant and the prior art are

the same, the applicant has the burden of showing that they are not...Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily posses the characteristics of the claimed product. Although Lyons does not specifically disclose "wherein coefficients of thermal expansion of the polymer dielectric and organic material are substantially matched," the same materials (polymer dielectric-polyimides and organic material-polyacetylene) are utilized in Lyons as in Applicant's invention therefore they would inherently have the same characteristics (For Example: See Column 4 Lines 5-21, Column 12 Lines 64-67 and Column 13 Lines 49-57). Finally, there is nothing disclosed in the claims that precludes the combination of the materials disclosed above.

2) Although Lyons does not specifically disclose "wherein coefficients of thermal expansion of the polymer dielectric and organic material are substantially matched and the polymer dielectric has a glass transition temperature or a melting point of about 125° C. or higher and about 425° C. or less," the same materials (polymer dielectric-polyimides and organic material-polyacetylene) are utilized in Lyons as in Applicant's invention therefore they would inherently have the same characteristics (For Example: See Column 4 Lines 5-21, Column 12 Lines 64-67 and Column 13 Lines 49-57). Finally, there is nothing disclosed in the claims that precludes the combination of the materials disclosed above.

3) Although Lyons does not specifically disclose "wherein coefficients of thermal expansion of the polymer dielectric and organic material are substantially matched and an organic semiconductor material are substantially matched and the polymer dielectric may have a dielectric constant below about 3," the same materials (polymer dielectric-polyimides and

organic material-polyacetylene) are utilized in Lyons as in Applicant's invention therefore they would inherently have the same characteristics (For Example: See Column 4 Lines 5-21, Column 12 Lines 64-67 and Column 13 Lines 49-57). Finally, there is nothing disclosed in the claims that precludes the combination of the materials disclosed above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Monica Lewis

Conferees:

Zandra Smith
Ricky Mack
Monica Lewis